LABORATORY ASSIGNMENTS-003

UNIX System Programming (CSE 3041)

Working with command line arguments and uses of shell metacharacters

Practice Assignment/ Minor Assignment::

The syntax of **grep** is **$ grep option pattern filename(s)**, searches the named files or the standard input and prints each line contains an instance of the **pattern**. Students are required to try various options such as -n, -v, -i, and -y etc. of grep from the **man** page.

1. Consider the given 'C' line for main function **int main(int argc, char *argv[])**. Here, the **argc** parameter contains the number of command-line tokens or arguments, and **argv** is an array of pointers to the command-line tokens. The **argv** is an example of an argument array. Write a complete C code with command-line arguments to main and check/verify the outputs.

   (a) Print the number of command-line arguments you have passed

   (b) Run the code **$ ./a.out ITER SOA IBCS**, and print all the command-line tokens.

   (c) Run the code **$ ../a.out "12 34 56"**, and display the total number of arguments.[Hint: grouping of tokens]

   (d) Run the code **$ ./a.out ITER SOA IBCS ``23 45 67''**, and display the total number of arguments.

   (e) Run the code **$ ./a.out ./a.out 12\34\56**, and display the total number of arguments.

   (f) Run the code **$ ./a.out ./a.out '12\34\56'**, and display the total number of arguments.

   (g) Run the code **$ ./a.out ./a.out ``12\34\56''**, and display the total number of arguments.

   (h) Run the code **$ ./a.out ./a.out 12 14 45 66**, and display the total number of arguments. Multiple blank spaces are given inbetween numbers.

   (i) Write the below by putting enter at end of each line

   ```
   ./a.out 12\
   34\
   56\
   78
   ```

   [**NOTE::**] A backslash at the end of a line causes the line to be continued. It is a way to present a verylong line to the shell.

   (j) Run the code **$ ./a.out # shell comments**, and display the total number of arguments. The metacharacter # is used for shelll comments

   (k) Run the code **$ ./a.out 12 $HOME 34**, and display the total number of arguments.

   (l) Putting any Shell command in between backquotes(`... `) executes the command.
   Syntax: To put any Shell **command** in between backquotes **vname=`commandName`**.
   Example::

      (i) **$ vname=`pwd`**, then **$ echo $vname** will display the current working directory.

      (ii) check the output

```
DATE=`date`
echo "Current Date: $DATE"
```

Now, Run the code **`$ ./a.out 12 `pwd` 34`**.